

ments of the applicable Guide, signed by an authorized representative of the accreditation body, without requirement for accompanying documentation. Any such affirmation shall be considered to be a continuous affirmation that the accreditation body meets the requirements of the applicable Guide, unless and until the affirmation is withdrawn by the accreditation body.

(Pub. L. 101-592, § 10, as added Pub. L. 106-34, § 10, June 8, 1999, 113 Stat. 123.)

#### PRIOR PROVISIONS

A prior section 10 of Pub. L. 101-592 was renumbered section 7 and is classified to section 5409 of this title.

#### § 5411b. Applicability

The requirements of this chapter shall be applicable only to fasteners fabricated 180 days or more after June 8, 1999, except that if a manufacturer or distributor of fasteners fabricated before June 8, 1999, prepares a record of conformance for such fasteners, representations about such fasteners shall be subject to the requirements of this chapter.

(Pub. L. 101-592, § 11, as added Pub. L. 106-34, § 11, June 8, 1999, 113 Stat. 124.)

#### PRIOR PROVISIONS

A prior section 11 of Pub. L. 101-592 was renumbered section 8 and is classified to section 5410 of this title.

#### § 5412. Repealed. Pub. L. 106-34, § 10, June 8, 1999, 113 Stat. 123

Section, Pub. L. 101-592, § 13, Nov. 16, 1990, 104 Stat. 2952; Pub. L. 104-113, § 11(i), Mar. 7, 1996, 110 Stat. 782, required the Secretary to issue regulations necessary to implement chapter.

#### § 5413. Repealed. Pub. L. 104-113, § 11(j), Mar. 7, 1996, 110 Stat. 782

Section, Pub. L. 101-592, § 14, Nov. 16, 1990, 104 Stat. 2952, related to appointment of an advisory committee to be available for consultation with Secretary on matters related to fasteners.

#### § 5414. Repealed. Pub. L. 106-34, § 10, June 8, 1999, 113 Stat. 123

Section, Pub. L. 101-592, § 15, Nov. 16, 1990, 104 Stat. 2952; Pub. L. 105-234, § 1, Aug. 14, 1998, 112 Stat. 1536, related to applicability of this chapter.

### CHAPTER 81—HIGH-PERFORMANCE COMPUTING

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#### § 5501. Findings

The Congress finds the following:

(1) Advances in computer science and technology are vital to the Nation's prosperity, national and economic security, industrial production, engineering, and scientific advancement.

(2) The United States currently leads the world in the development and use of high-performance computing for national security, industrial productivity, science, and engineering, but that lead is being challenged by foreign competitors.

(3) Further research and development, expanded educational programs, improved computer research networks, and more effective technology transfer from government to industry are necessary for the United States to reap fully the benefits of high-performance computing.

(4) A high-capacity, flexible, high-speed national research and education computer network is needed to provide researchers and educators with access to computational and information resources, act as a test bed for further research and development for high-capacity and high-speed computer networks, and provide researchers the necessary vehicle for continued network technology improvement through research.

(5) Several Federal agencies have ongoing high-performance computing programs, but improved long-term interagency coordination, cooperation, and planning would enhance the effectiveness of these programs.

(6) A 1991 report entitled "Grand Challenges: High-Performance Computing and Communications" by the Office of Science and Technology Policy, outlining a research and development strategy for high-performance computing, provides a framework for a multi-agency high-performance computing program. Such a program would provide American researchers and educators with the computer and information resources they need, and demonstrate how advanced computers, high-capacity and high-speed networks, and electronic data bases can improve the national information infrastructure for use by all Americans.

(7) Additional research must be undertaken to lay the foundation for the development of new applications that can result in economic growth, improved health care, and improved educational opportunities.

(8) Research in new networking technologies holds the promise of easing the economic burdens of information access disproportionately borne by rural users of the Internet.

(9) Information security is an important part of computing, information, and communications systems and applications, and research into security architectures is a critical aspect of computing, information, and communications research programs.

(Pub. L. 102–194, §2, Dec. 9, 1991, 105 Stat. 1594; Pub. L. 105–305, §2(b), Oct. 28, 1998, 112 Stat. 2919.)

#### AMENDMENTS

1998—Par. (4). Pub. L. 105–305, §2(b)(1), added par. (4) and struck out former par. (4) which read as follows: “A high-capacity and high-speed national research and education computer network would provide researchers and educators with access to computer and information resources and act as a test bed for further research and development of high-capacity and high-speed computer networks.”

Pars. (7) to (9). Pub. L. 105–305, §2(b)(2), added pars. (7) to (9).

#### SHORT TITLE OF 1998 AMENDMENT

Pub. L. 105–305, §1, Oct. 28, 1998, 112 Stat. 2919, provided that: “This Act [enacting this chapter] may be cited as the ‘High-Performance Computing Act of 1991’.”

#### SHORT TITLE

Pub. L. 102–194, §1, Dec. 9, 1991, 105 Stat. 1594, provided that: “This Act [enacting this chapter] may be cited as the ‘High-Performance Computing Act of 1991’.”

Pub. L. 108–423, §1, Nov. 30, 2004, 118 Stat. 2400, provided that: “This Act [enacting subchapter III of this chapter, amending sections 205f of this title and 1862n–9 of Title 42, The Public Health and Welfare, and enacting provisions set out as a note under section 1862n–9 of Title 42] may be cited as the ‘Department of Energy High-End Computing Revitalization Act of 2004’.”

#### CONGRESSIONAL FINDINGS

Pub. L. 105–305, §2(a), Oct. 28, 1998, 112 Stat. 2919, provided that: “The Congress finds that—

“(1) United States leadership in science and technology has been vital to the Nation’s prosperity, national and economic security, and international competitiveness, and there is every reason to believe that maintaining this tradition will lead to long-term continuation of United States strategic advantages in information technology;

“(2) the United States investment in science and technology has yielded a scientific and engineering enterprise without peer, and that Federal investment in research is critical to the maintenance of United States leadership;

“(3) previous Federal investment in computer networking technology and related fields has resulted in the creation of new industries and new jobs in the United States;

“(4) the Internet is playing an increasingly important role in keeping citizens informed of the actions of their government; and

“(5) continued inter-agency cooperation is necessary to avoid wasteful duplication in Federal networking research and development programs.”

#### PURPOSES

Pub. L. 105–305, §3(a), Oct. 28, 1998, 112 Stat. 2920, provided that: “The purposes of this Act [see Short Title of 1998 Amendment note above] are—

“(1) to authorize, through the High-Performance Computing Act of 1991 (15 U.S.C. 5501 et seq.), research programs related to—

“(A) high-end computing and computation;

“(B) human-centered systems;

“(C) high confidence systems; and

“(D) education, training, and human resources; and

“(2) to provide, through the High-Performance Computing Act of 1991 (15 U.S.C. 5501 et seq.), for the development and coordination of a comprehensive and integrated United States research program which will—

“(A) focus on the research and development of a coordinated set of technologies that seeks to create a network infrastructure that can support greater speed, robustness, and flexibility than is currently available and promote connectivity and interoperability among advanced computer networks of Federal agencies and departments;

“(B) focus on research in technology that may result in high-speed data access for users that is both economically viable and does not impose a geographic penalty; and

“(C) encourage researchers to pursue approaches to networking technology that lead to maximally flexible and extensible solutions wherever feasible.”

#### DEFINITIONS

Pub. L. 105–305, §7(a), Oct. 28, 1998, 112 Stat. 2924, provided that: “For purposes of this Act [see Short Title of 1998 Amendment note above]—

“(1) GEOGRAPHIC PENALTY.—The term ‘geographic penalty’ means the imposition of costs on users of the Internet in rural or other locations, attributable to the distance of the user from network facilities, the low population density of the area in which the user is located, or other factors, that are disproportionately greater than the costs imposed on users in locations closer to such facilities or on users in locations with significantly greater population density.

“(2) INTERNET.—The term ‘Internet’ means the international computer network of both Federal and non-Federal interoperable packet switched data networks.”

#### § 5502. Purposes

The purposes of this chapter are to help ensure the continued leadership of the United States in high-performance computing and its applications by—

(1) expanding Federal support for research, development, and application of high-performance computing in order to—

(A) expand the number of researchers, educators, and students with training in high-performance computing and access to high-performance computing resources;

(B) promote the further development of an information infrastructure of data bases, services, access mechanisms, and research facilities available for use through the Internet;

(C) stimulate research on software technology;

(D) promote the more rapid development and wider distribution of computing software tools and applications software;

(E) accelerate the development of computing systems and subsystems;

(F) provide for the application of high-performance computing to Grand Challenges;

(G) invest in basic research and education, and promote the inclusion of high-performance computing into educational institutions at all levels; and

(H) promote greater collaboration among government, Federal laboratories, industry, high-performance computing centers, and universities;

(2) improving the interagency planning and coordination of Federal research and development on high-performance computing and maximizing the effectiveness of the Federal Government's high-performance computing network research and development programs;

(3) promoting the more rapid development and wider distribution of networking management and development tools; and

(4) promoting the rapid adoption of open network standards.

(Pub. L. 102-194, § 3, Dec. 9, 1991, 105 Stat. 1594; Pub. L. 105-305, § 3(b), Oct. 28, 1998, 112 Stat. 2920.)

#### AMENDMENTS

1998—Pub. L. 105-305, § 3(b)(1), substituted “Purposes” for “Purpose” as section catchline.

Pub. L. 105-305, § 3(b)(2), substituted “purposes of this chapter are” for “purpose of this chapter is” in introductory provisions.

Par. (1)(A). Pub. L. 105-305, § 3(b)(3), redesignated subpar. (B) as (A) and struck out former subpar. (A) which read as follows: “establish a high-capacity and high-speed National Research and Education Network;”.

Par. (1)(B). Pub. L. 105-305, § 3(b)(3), (4), redesignated subpar. (C) as (B) and substituted “Internet” for “Network”. Former subpar. (B) redesignated (A).

Par. (1)(C) to (I). Pub. L. 105-305, § 3(b)(3), (5), redesignated subpars. (D) to (I) as (C) to (H), respectively, and struck out “and” at end of par. (H).

Par. (2). Pub. L. 105-305, § 3(b)(6), substituted “network research and development programs;” for “efforts.”

Pars. (3), (4). Pub. L. 105-305, § 3(b)(7), added pars. (3) and (4).

#### § 5503. Definitions

As used in this chapter, the term—

(1) “Director” means the Director of the Office of Science and Technology Policy;

(2) “Grand Challenge” means a fundamental problem in science or engineering, with broad economic and scientific impact, whose solution will require the application of high-performance computing resources and multidisciplinary teams of researchers;

(3) “high-performance computing” means advanced computing, communications, and information technologies, including supercomputer systems, high-capacity and high-speed networks, special purpose and experimental systems, applications and systems software, and the management of large data sets;

(4) “Internet” means the international computer network of both Federal and non-Federal interoperable data networks;

(5) “Network” means a computer network referred to as the National Research and Education Network established under section 5512 of this title;

(6) “Program” means the National High-Performance Computing Program described in section 5511 of this title; and

(7) “Program Component Areas” means the major subject areas under which related individual projects and activities carried out under the Program are grouped.

(Pub. L. 102-194, § 4, Dec. 9, 1991, 105 Stat. 1595; Pub. L. 105-305, § 7(b), Oct. 28, 1998, 112 Stat. 2924; Pub. L. 110-69, title VII, § 7024(a)(2), Aug. 9, 2007, 121 Stat. 689.)

#### AMENDMENTS

2007—Par. (2). Pub. L. 110-69, § 7024(a)(2)(A), inserted “and multidisciplinary teams of researchers” after “high-performance computing resources”.

Par. (3). Pub. L. 110-69, § 7024(a)(2)(B), struck out “scientific workstations,” after “technologies, including” and “(including vector supercomputers and large scale parallel systems)” after “supercomputer systems”, substituted “applications” for “and applications”, and inserted “, and the management of large data sets” after “systems software”.

Par. (4). Pub. L. 110-69, § 7024(a)(2)(C), struck out “packet switched” before “data networks”.

Par. (7). Pub. L. 110-69, § 7024(a)(2)(D)–(F), added par. (7).

1998—Pars. (4) to (6). Pub. L. 105-305 added par. (4) and redesignated former pars. (4) and (5) as (5) and (6), respectively.

#### SUBCHAPTER I—HIGH-PERFORMANCE COMPUTING RESEARCH AND DEVELOPMENT

##### § 5511. National High-Performance Computing Program

##### (a) National High-Performance Computing Program

(1) The President shall implement a National High-Performance Computing Program, which shall—

(A) provide for long-term basic and applied research on high-performance computing, including networking;

(B) provide for research and development on, and demonstration of, technologies to advance the capacity and capabilities of high-performance computing and networking systems, and related software;

(C) provide for sustained access by the research community throughout the United States to high-performance computing and networking systems that are among the most advanced in the world in terms of performance in solving scientific and engineering problems, including provision for technical support for users of such systems;

(D) provide for widely dispersed efforts to increase software availability, productivity, capability, security, portability, and reliability;

(E) provide for high-performance networks, including experimental testbed networks, to enable research and development on, and demonstration of, advanced applications enabled by such networks;

(F) provide for computational science and engineering research on mathematical modeling and algorithms for applications in all fields of science and engineering;

(G) provide for the technical support of, and research and development on, high-performance computing systems and software required to address Grand Challenges;

(H) provide for educating and training additional undergraduate and graduate students in software engineering, computer science, computer and network security, applied mathematics, library and information science, and computational science; and

(I) provide for improving the security of computing and networking systems, including Federal systems, including providing for research required to establish security standards and practices for these systems.

(2) The Director shall—

(A) establish the goals and priorities for Federal high-performance computing research, development, networking, and other activities;

(B) establish Program Component Areas that implement the goals established under subparagraph (A), and identify the Grand Challenges that the Program should address;

(C) provide for interagency coordination of Federal high-performance computing research, development, networking, and other activities undertaken pursuant to the Program;

(D) submit to the Congress an annual report, along with the President's annual budget request, describing the implementation of the Program;

(E) develop and maintain a research, development, and deployment roadmap covering all States and regions for the provision of high-performance computing and networking systems under paragraph (1)(C); and

(F) consult with academic, State, industry, and other appropriate groups conducting research on and using high-performance computing.

(3) The annual report submitted under paragraph (2)(D) shall—

(A) provide a detailed description of the Program Component Areas, including a description of any changes in the definition of or activities under the Program Component Areas from the preceding report, and the reasons for such changes, and a description of Grand Challenges addressed under the Program;

(B) set forth the relevant programs and activities, for the fiscal year with respect to which the budget submission applies, of each Federal agency and department, including—

- (i) the Department of Agriculture;
- (ii) the Department of Commerce;
- (iii) the Department of Defense;
- (iv) the Department of Education;
- (v) the Department of Energy;
- (vi) the Department of Health and Human Services;
- (vii) the Department of the Interior;
- (viii) the Environmental Protection Agency;

(ix) the National Aeronautics and Space Administration;

(x) the National Science Foundation; and

(xi) such other agencies and departments as the President or the Director considers appropriate;

(C) describe the levels of Federal funding for the fiscal year during which such report is submitted, and the levels proposed for the fiscal year with respect to which the budget submission applies, for each Program Component Area;

(D) describe the levels of Federal funding for each agency and department participating in the Program, and for each Program Component Area, for the fiscal year during which such report is submitted, and the levels proposed for the fiscal year with respect to which the budget submission applies; and

(E) include an analysis of the progress made toward achieving the goals and priorities es-

tablished for the Program and the extent to which the Program incorporates the recommendations of the advisory committee established under subsection (b).

**(b) Advisory committee**

(1) The President shall establish an advisory committee on high-performance computing, consisting of geographically dispersed non-Federal members, including representatives of the research, education, and library communities, network and related software providers, and industry representatives in the Program Component Areas, who are specially qualified to provide the Director with advice and information on high-performance computing. The recommendations of the advisory committee shall be considered in reviewing and revising the Program. The advisory committee shall provide the Director with an independent assessment of—

(A) progress made in implementing the Program;

(B) the need to revise the Program;

(C) the balance between the components of the Program, including funding levels for the Program Component Areas;

(D) whether the research and development undertaken pursuant to the Program is helping to maintain United States leadership in high-performance computing, networking technology, and related software; and

(E) other issues identified by the Director.

(2) In addition to the duties outlined in paragraph (1), the advisory committee shall conduct periodic evaluations of the funding, management, coordination, implementation, and activities of the Program. The advisory committee shall report not less frequently than once every 2 fiscal years to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate on its findings and recommendations. The first report shall be due within 1 year after August 9, 2007.

(3) Section 14 of the Federal Advisory Committee Act shall not apply to the advisory committee established under this subsection.

**(c) Office of Management and Budget**

(1) Each Federal agency and department participating in the Program shall, as part of its annual request for appropriations to the Office of Management and Budget, submit a report to the Office of Management and Budget which—

(A) identifies each element of its high-performance computing activities which contributes directly to the Program Component Areas or benefits from the Program; and

(B) states the portion of its request for appropriations that is allocated to each such element.

(2) The Office of Management and Budget shall review each such report in light of the goals, priorities, and agency and departmental responsibilities set forth in the annual report submitted under subsection (a)(2)(D) of this section, and shall include, in the President's annual budget estimate, a statement of the portion of each appropriate agency's or department's annual budget estimate relating to its activities undertaken pursuant to the Program.

(Pub. L. 102-194, title I, §101, Dec. 9, 1991, 105 Stat. 1595; Pub. L. 104-66, title I, §1052(k), Dec. 21, 1995, 109 Stat. 719; Pub. L. 105-305, §4, Oct. 28, 1998, 112 Stat. 2921; Pub. L. 110-69, title VII, §7024(a)(1)(B)-(D), Aug. 9, 2007, 121 Stat. 686-689.)

#### REFERENCES IN TEXT

Section 14 of the Federal Advisory Committee Act, referred to in subsec. (b)(3), is section 14 of Pub. L. 92-463, which is set out in the Appendix to Title 5, Government Organization and Employees.

#### AMENDMENTS

2007—Subsec. (a)(1)(A) to (I). Pub. L. 110-69, §7024(a)(1)(B)(i), added subpars. (A) to (I) and struck out former subpars. (A) and (B) which read as follows:

“(A) establish the goals and priorities for Federal high-performance computing research, development, networking, and other activities; and

“(B) provide for interagency coordination of Federal high-performance computing research, development, networking, and other activities undertaken pursuant to the Program.”

Subsec. (a)(2). Pub. L. 110-69, §7024(a)(1)(B)(ii), redesignated par. (3) as (2) and struck out former par. (2) which provided additional requirements for the National High-Performance Computing Program.

Subsec. (a)(2)(A) to (F). Pub. L. 110-69, §7024(a)(1)(B)(iii), added subpars. (A) to (C) and (E), redesignated former subpars. (A) and (C) as (D) and (F), respectively, and struck out former subpar. (B) which read as follows: “provide for interagency coordination of the Program; and”.

Subsec. (a)(3). Pub. L. 110-69, §7024(a)(1)(B)(iv)(I), substituted “paragraph (2)(D)” for “paragraph (3)(A)” in introductory provisions.

Pub. L. 110-69, §7024(a)(1)(B)(ii), redesignated par. (4) as (3). Former par. (3) redesignated (2).

Subsec. (a)(3)(A). Pub. L. 110-69, §7024(a)(1)(B)(iv)(II), amended subpar. (A) generally. Prior to amendment, subpar. (A) read as follows: “include a detailed description of the goals and priorities established by the President for the Program;”.

Subsec. (a)(3)(C). Pub. L. 110-69, §7024(a)(1)(B)(iv)(III), substituted “each Program Component Area” for “specific activities, including education, research, hardware and software development, and support for the establishment of the Network”.

Subsec. (a)(3)(D). Pub. L. 110-69, §7024(a)(1)(B)(iv)(IV), (V), inserted “, and for each Program Component Area,” after “participating in the Program” and “and” after “applies;”.

Subsec. (a)(3)(E), (F). Pub. L. 110-69, §7024(a)(1)(B)(iv)(VI), (VII), redesignated subpar. (F) as (E), inserted “and the extent to which the Program incorporates the recommendations of the advisory committee established under subsection (b)” after “for the Program”, and struck out former subpar. (E) which read as follows: “include the report of the Secretary of Energy required by section 5523(d) of this title; and”.

Subsec. (b). Pub. L. 110-69, §7024(a)(1)(C), added subsec. (b) and struck out heading and text of former subsec. (b). Text consisted of pars. (1) to (5) which contained provisions similar to those now contained in par. (1).

Subsec. (c)(1)(A). Pub. L. 110-69, §7024(a)(1)(D)(i), substituted “Program Component Areas or” for “Program or”.

Subsec. (c)(2). Pub. L. 110-69, §7024(a)(1)(D)(ii), substituted “subsection (a)(2)(D)” for “subsection (a)(3)(A)”.

1998—Subsec. (a)(2)(A), (B). Pub. L. 105-305, §4(a), amended subpars. (A) and (B) generally. Prior to amendment, subpars. read as follows:

“(A) provide for the establishment of policies for management and access to the Network;

“(B) provide for oversight of the operation and evolution of the Network;”.

Subsec. (b). Pub. L. 105-305, §4(b), struck out “High-performance computing” before “advisory committee” in heading.

1995—Subsec. (a)(4)(D) to (F). Pub. L. 104-66 struck out “and” at end of subpar. (D), added subpar. (E), and redesignated former subpar. (E) as (F).

#### CHANGE OF NAME

Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

#### TERMINATION OF ADVISORY COMMITTEES

Advisory committees established after Jan. 5, 1973, to terminate not later than the expiration of the 2-year period beginning on the date of their establishment, unless, in the case of a committee established by the President or an officer of the Federal Government, such committee is renewed by appropriate action prior to the expiration of such 2-year period, or in the case of a committee established by the Congress, its duration is otherwise provided for by law. See section 14 of Pub. L. 92-463, Oct. 6, 1972, 86 Stat. 776, set out in the Appendix to Title 5, Government Organization and Employees.

#### DELEGATION OF FUNCTIONS

President’s Council of Advisors on Science and Technology to serve as the advisory committee identified in sections 5511(b) and 5513(b) of this title and to be known as the President’s Innovation and Technology Advisory Committee when so serving, see section 2(a)(iii) of Ex. Ord. No. 13539, set out as a note under section 6601 of Title 42, The Public Health and Welfare.

#### EX. ORD. NO. 13035. PRESIDENT’S INFORMATION TECHNOLOGY ADVISORY COMMITTEE

Ex. Ord. No. 13035, Feb. 11, 1997, 62 F.R. 7131, as amended by Ex. Ord. No. 13092, July 24, 1998, 63 F.R. 40167; Ex. Ord. No. 13113, Feb. 10, 1999, 64 F.R. 7489; Ex. Ord. No. 13200, Feb. 11, 2001, 66 F.R. 10183; Ex. Ord. No. 13215, May 31, 2001, 66 F.R. 30285; Ex. Ord. No. 13305, May 28, 2003, 68 F.R. 32323, provided:

By the authority vested in me as President by the Constitution and the laws of the United States of America, including the High-Performance Computing Act of 1991 (Public Law 102-194) (“Act”) [15 U.S.C. 5501 et seq.], as amended by the Next Generation Internet Research Act of 1998 (Public Law 105-305) (“Research Act”) [see Short Title of 1998 Amendment note set out under section 5501 of this title], and in order to establish an advisory committee on high-performance computing and communications, Information Technology [sic], and the Next Generation Internet, it is hereby ordered as follows:

**SECTION 1. *Establishment.*** There is established the “President’s Information Technology Advisory Committee” (“Committee”). The Committee shall consist of not more than 30 nonfederal members appointed by the President, including representatives of the research, education, and library communities, network providers, and representatives from critical industries. Members appointed prior to June 1, 2001, shall serve until December 1, 2001, unless reappointed by the President. Members appointed or reappointed on or after June 1, 2001, shall serve for no more than 2 years from the date of their appointment, unless their period of service is extended by the President. The President shall designate two co-chairs from among the members of the Committee. A co-chair may serve for a term of 2 years or until the end of his or her service as a member of the Committee, whichever is the shorter period.

**SEC. 2. *Functions.*** (a) The Committee shall provide the National Science and Technology Council (NSTC), through the Director of the Office of Science and Technology Policy (“Director”), with advice and information on high-performance computing and communications, information technology, and the Next Generation Internet. The Committee shall provide an independent assessment of:

(1) progress made in implementing the High-Performance Computing and Communications (HPCC) Program;

(2) progress in designing and implementing the Next Generation Internet initiative;

(3) the need to revise the HPCC Program;

(4) balance among components of the HPCC Program;

(5) whether the research and development undertaken pursuant to the HPCC Program is helping to maintain United States leadership in advanced computing and communications technologies and their applications; and

(6) other issues as specified by the Director.

(b) The Committee shall carry out its responsibilities under the Research Act in the manner described in the Research Act.

**SEC. 3. Administration.** To the extent permitted by law and subject to the availability of appropriations, the Department of Defense shall provide the financial and administrative support for the Committee. Further, the Director of the National Coordination Office for Computing Information, and Communications ("Director of the NCO") shall provide such coordination and technical assistance to the Committee as the co-chairs of the Committee may request.

(a) The heads of executive agencies shall, to the extent permitted by law, provide to the Committee such information as it may require for the purpose of carrying out its functions.

(b) The co-chairs may, from time to time, invite experts to submit information to the Committee and may form subcommittees or working groups within the Committee to review specific issues.

(c) Members of the Committee shall serve without compensation but shall be allowed travel expenses, including per diem in lieu of subsistence, as authorized by law for persons serving intermittently in the Government service (5 U.S.C. 5701-5707).

**SEC. 4. General.** (a) Notwithstanding any other Executive order, the functions of the President under the Federal Advisory Committee Act, as amended [5 U.S.C. App.], except that of reporting to the Congress, that are applicable to the Committee shall be performed by the Director of the NCO in accordance with guidelines that have been issued by the Administrator of General Services.

(b) The Committee shall terminate June 1, 2005, unless extended by the President prior to such date.

## **§ 5512. National Research and Education Network**

### **(a) Establishment**

As part of the Program, the National Science Foundation, the Department of Defense, the Department of Energy, the Department of Commerce, the National Aeronautics and Space Administration, and other agencies participating in the Program shall support the establishment of the National Research and Education Network, portions of which shall, to the extent technically feasible, be capable of transmitting data at one gigabit per second or greater by 1996. The Network shall provide for the linkage of research institutions and educational institutions, government, and industry in every State.

### **(b) Access**

Federal agencies and departments shall work with private network service providers, State and local agencies, libraries, educational institutions and organizations, and others, as appropriate, in order to ensure that the researchers, educators, and students have access, as appropriate, to the Network. The Network is to provide users with appropriate access to high-performance computing systems, electronic information resources, other research facilities, and

libraries. The Network shall provide access, to the extent practicable, to electronic information resources maintained by libraries, research facilities, publishers, and affiliated organizations.

### **(c) Network characteristics**

The Network shall—

(1) be developed and deployed with the computer, telecommunications, and information industries;

(2) be designed, developed, and operated in collaboration with potential users in government, industry, and research institutions and educational institutions;

(3) be designed, developed, and operated in a manner which fosters and maintains competition and private sector investment in high-speed data networking within the telecommunications industry;

(4) be designed, developed, and operated in a manner which promotes research and development leading to development of commercial data communications and telecommunications standards, whose development will encourage the establishment of privately operated high-speed commercial networks;

(5) be designed and operated so as to ensure the continued application of laws that provide network and information resources security measures, including those that protect copyright and other intellectual property rights, and those that control access to data bases and protect national security;

(6) have accounting mechanisms which allow users or groups of users to be charged for their usage of copyrighted materials available over the Network and, where appropriate and technically feasible, for their usage of the Network;

(7) ensure the interoperability of Federal and non-Federal computer networks, to the extent appropriate, in a way that allows autonomy for each component network;

(8) be developed by purchasing standard commercial transmission and network services from vendors whenever feasible, and by contracting for customized services when not feasible, in order to minimize Federal investment in network hardware;

(9) support research and development of networking software and hardware; and

(10) serve as a test bed for further research and development of high-capacity and high-speed computing networks and demonstrate how advanced computers, high-capacity and high-speed computing networks, and data bases can improve the national information infrastructure.

### **(d) Defense Advanced Research Projects Agency responsibility**

As part of the Program, the Department of Defense, through the Defense Advanced Research Projects Agency, shall support research and development of advanced fiber optics technology, switches, and protocols needed to develop the Network.

### **(e) Information services**

The Director shall assist the President in coordinating the activities of appropriate agencies and departments to promote the development of

information services that could be provided over the Network. These services may include the provision of directories of the users and services on computer networks, data bases of unclassified Federal scientific data, training of users of data bases and computer networks, access to commercial information services for users of the Network, and technology to support computer-based collaboration that allows researchers and educators around the Nation to share information and instrumentation.

**(f) Use of grant funds**

All Federal agencies and departments are authorized to allow recipients of Federal research grants to use grant moneys to pay for computer networking expenses.

**(g) Report to Congress**

Within one year after December 9, 1991, the Director shall report to the Congress on—

- (1) effective mechanisms for providing operating funds for the maintenance and use of the Network, including user fees, industry support, and continued Federal investment;
- (2) the future operation and evolution of the Network;
- (3) how commercial information service providers could be charged for access to the Network, and how Network users could be charged for such commercial information services;
- (4) the technological feasibility of allowing commercial information service providers to use the Network and other federally funded research networks;
- (5) how to protect the copyrights of material distributed over the Network; and
- (6) appropriate policies to ensure the security of resources available on the Network and to protect the privacy of users of networks.

(Pub. L. 102-194, title I, §102, Dec. 9, 1991, 105 Stat. 1598.)

**§ 5513. Next Generation Internet**

**(a) Establishment**

The National Science Foundation, the Department of Energy, the National Institutes of Health, the National Aeronautics and Space Administration, and the National Institute of Standards and Technology may support the Next Generation Internet program. The objectives of the Next Generation Internet program shall be to—

- (1) support research, development, and demonstration of advanced networking technologies to increase the capabilities and improve the performance of the Internet;
- (2) develop an advanced testbed network connecting a significant number of research sites, including universities, Federal research institutions, and other appropriate research partner institutions, to support networking research and to demonstrate new networking technologies; and
- (3) develop and demonstrate advanced Internet applications that meet important national goals or agency mission needs, and that are supported by the activities described in paragraphs (1) and (2).

**(b) Duties of Advisory Committee**

The President's Information Technology Advisory Committee (established pursuant to section

5511(b) of this title by Executive Order No. 13035 of February 11, 1997 (62 F.R. 7131), as amended by Executive Order No. 13092 of July 24, 1998), in addition to its functions under section 5511(b) of this title, shall—

- (1) assess the extent to which the Next Generation Internet program—

(A) carries out the purposes of this chapter; and

(B) addresses concerns relating to, among other matters—

(i) geographic penalties (as defined in section 7(1) of the Next Generation Internet Research Act of 1998);<sup>1</sup>

(ii) the adequacy of access to the Internet by Historically Black Colleges and Universities, Hispanic Serving Institutions, and small colleges and universities (whose enrollment is less than 5,000) and the degree of participation of those institutions in activities described in subsection (a) of this section; and

(iii) technology transfer to and from the private sector;

- (2) review the extent to which the role of each Federal agency and department involved in implementing the Next Generation Internet program is clear and complementary to, and non-duplicative of, the roles of other participating agencies and departments;

(3) assess the extent to which Federal support of fundamental research in computing is sufficient to maintain the Nation's critical leadership in this field; and

(4) make recommendations relating to its findings under paragraphs (1), (2), and (3).

**(c) Reports**

The Advisory Committee shall review implementation of the Next Generation Internet program and shall report, not less frequently than annually, to the President, the Committee on Commerce, Science, and Transportation, the Committee on Appropriations, and the Committee on Armed Services of the Senate, and the Committee on Science, the Committee on Appropriations, and the Committee on Armed Services of the House of Representatives on its findings and recommendations for the preceding fiscal year. The first such report shall be submitted 6 months after October 28, 1998, and the last report shall be submitted by September 30, 2000.

**(d) Authorization of appropriations**

There are authorized to be appropriated for the purposes of this section—

(1) for the Department of Energy, \$22,000,000 for fiscal year 1999 and \$25,000,000 for fiscal year 2000;

(2) for the National Science Foundation, \$25,000,000 for fiscal year 1999 and \$25,000,000 for fiscal year 2000, as authorized in the National Science Foundation Authorization Act of 1998;

(3) for the National Institutes of Health, \$5,000,000 for fiscal year 1999 and \$7,500,000 for fiscal year 2000;

(4) for the National Aeronautics and Space Administration, \$10,000,000 for fiscal year 1999 and \$10,000,000 for fiscal year 2000; and

<sup>1</sup> See References in Text note below.

(5) for the National Institute of Standards and Technology, \$5,000,000 for fiscal year 1999 and \$7,500,000 for fiscal year 2000.

Such funds may not be used for routine upgrades to existing federally funded communication networks.

(Pub. L. 102–194, title I, §103, as added Pub. L. 105–305, §5, Oct. 28, 1998, 112 Stat. 2921; amended Pub. L. 106–65, div. A, title X, §1067(20), Oct. 5, 1999, 113 Stat. 775.)

#### REFERENCES IN TEXT

Executive Order No. 13035, referred to in subsec. (b), is set out as a note under section 5511 of this title.

Section 7(1) of the Next Generation Internet Research Act of 1998, referred to in subsec. (b)(1)(B)(i), probably means section 7(a)(1) of Pub. L. 105–305, which is set out as a note under section 5501 of this title.

The National Science Foundation Authorization Act of 1998, referred to in subsec. (d)(2), is Pub. L. 105–207, July 29, 1998, 112 Stat. 869. For complete classification of this Act to the Code, see Short Title of 1998 Amendment note set out under section 1861 of Title 42, The Public Health and Welfare, and Tables.

#### AMENDMENTS

1999—Subsec. (c). Pub. L. 106–65 substituted “Committee on Armed Services of the House” for “Committee on National Security of the House”.

#### CHANGE OF NAME

Committee on Science of House of Representatives changed to Committee on Science and Technology of House of Representatives by House Resolution No. 6, One Hundred Tenth Congress, Jan. 5, 2007. Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

### SUBCHAPTER II—AGENCY ACTIVITIES

#### § 5521. National Science Foundation activities

##### (a) General responsibilities

As part of the Program described in subchapter I of this chapter—

(1) the National Science Foundation shall provide computing and networking infrastructure support for all science and engineering disciplines, and support basic research and human resource development in all aspects of high-performance computing and advanced high-speed computer networking;

(2) to the extent that colleges, universities, and libraries cannot connect to the Network with the assistance of the private sector, the National Science Foundation shall have primary responsibility for assisting colleges, universities, and libraries to connect to the Network;

(3) the National Science Foundation shall serve as the primary source of information on access to and use of the Network; and

(4) the National Science Foundation shall upgrade the National Science Foundation funded network, assist regional networks to upgrade their capabilities, and provide other Federal departments and agencies the opportunity to connect to the National Science Foundation funded network.

##### (b) Authorization of appropriations

From sums otherwise authorized to be appropriated, there are authorized to be appropriated

to the National Science Foundation for the purposes of the Program \$213,000,000 for fiscal year 1992; \$262,000,000 for fiscal year 1993; \$305,000,000 for fiscal year 1994; \$354,000,000 for fiscal year 1995; and \$413,000,000 for fiscal year 1996.

(Pub. L. 102–194, title II, §201, Dec. 9, 1991, 105 Stat. 1599.)

#### § 5522. National Aeronautics and Space Administration activities

##### (a) General responsibilities

As part of the Program described in subchapter I of this chapter, the National Aeronautics and Space Administration shall conduct basic and applied research in high-performance computing, particularly in the field of computational science, with emphasis on aerospace sciences, earth and space sciences, and remote exploration and experimentation.

##### (b) Authorization of appropriations

From sums otherwise authorized to be appropriated, there are authorized to be appropriated to the National Aeronautics and Space Administration for the purposes of the Program \$72,000,000 for fiscal year 1992; \$107,000,000 for fiscal year 1993; \$134,000,000 for fiscal year 1994; \$151,000,000 for fiscal year 1995; and \$145,000,000 for fiscal year 1996.

(Pub. L. 102–194, title II, §202, Dec. 9, 1991, 105 Stat. 1600.)

#### § 5523. Department of Energy activities

##### (a) General responsibilities

As part of the Program described in subchapter I of this chapter, the Secretary of Energy shall—

(1) conduct and support basic and applied research in high-performance computing and networking to support fundamental research in science and engineering disciplines related to energy applications; and

(2) provide computing and networking infrastructure support, including—

(A) the provision of high-performance computing systems that are among the most advanced in the world in terms of performance in solving scientific and engineering problems; and

(B) support for advanced software and applications development for science and engineering disciplines related to energy applications.

##### (b) Authorization of appropriations

There are authorized to be appropriated to the Secretary of Energy such sums as are necessary to carry out this section.

(Pub. L. 102–194, title II, §203, Dec. 9, 1991, 105 Stat. 1600; Pub. L. 104–66, title I, §1052(j), Dec. 21, 1995, 109 Stat. 719; Pub. L. 109–58, title IX, §976(b), Aug. 8, 2005, 119 Stat. 903.)

#### AMENDMENTS

2005—Pub. L. 109–58 reenacted section catchline without change and amended text generally, substituting provisions relating to general responsibilities and authorization of appropriations for provisions relating to general responsibilities, establishment of High-Performance Computing Research and Development Col-



laborative Consortia, transfer of technology to private sector and others, reports on activities, and authorization of appropriations.

1995—Subsec. (d). Pub. L. 104-66 amended heading and text of subsec. (d) generally. Prior to amendment, text read as follows: “Within one year after December 9, 1991, and every year thereafter, the Secretary of Energy shall transmit to the Congress a report on activities taken to carry out this chapter.”

#### **§ 5524. Department of Commerce activities**

##### **(a) General responsibilities**

As part of the Program described in subchapter I of this chapter—

(1) the National Institute of Standards and Technology shall—

(A) conduct basic and applied measurement research needed to support various high-performance computing systems and networks;

(B) develop and propose standards and guidelines, and develop measurement techniques and test methods, for the interoperability of high-performance computing systems in networks and for common user interfaces to systems; and

(C) be responsible for developing benchmark tests and standards for high-performance computing systems and software; and

(2) the National Oceanic and Atmospheric Administration shall conduct basic and applied research in weather prediction and ocean sciences, particularly in development of new forecast models, in computational fluid dynamics, and in the incorporation of evolving computer architectures and networks into the systems that carry out agency missions.

##### **(b) High-performance computing and network security**

Pursuant to the Computer Security Act of 1987 (Public Law 100-235; 101 Stat. 1724), the National Institute of Standards and Technology shall be responsible for developing and proposing standards and guidelines needed to assure the cost-effective security and privacy of sensitive information in Federal computer systems.

##### **(c) Study of impact of Federal procurement regulations**

(1) The Secretary of Commerce shall conduct a study to—

(A) evaluate the impact of Federal procurement regulations that require that contractors providing software to the Federal Government share the rights to proprietary software development tools that the contractors use to develop the software; and

(B) determine whether such regulations discourage development of improved software development tools and techniques.

(2) The Secretary of Commerce shall, within one year after December 9, 1991, report to the Congress regarding the results of the study conducted under paragraph (1).

##### **(d) Authorization of appropriations**

From sums otherwise authorized to be appropriated, there are authorized to be appropriated—

(1) to the National Institute of Standards and Technology for the purposes of the Pro-

gram \$3,000,000 for fiscal year 1992; \$4,000,000 for fiscal year 1993; \$5,000,000 for fiscal year 1994; \$6,000,000 for fiscal year 1995; and \$7,000,000 for fiscal year 1996; and

(2) to the National Oceanic and Atmospheric Administration for the purposes of the Program \$2,500,000 for fiscal year 1992; \$3,000,000 for fiscal year 1993; \$3,500,000 for fiscal year 1994; \$4,000,000 for fiscal year 1995; and \$4,500,000 for fiscal year 1996.

(Pub. L. 102-194, title II, §204, Dec. 9, 1991, 105 Stat. 1601.)

#### **REFERENCES IN TEXT**

The Computer Security Act of 1987, referred to in subsec. (b), is Pub. L. 100-235, Jan. 8, 1988, 101 Stat. 1724, which enacted sections 278g-3 and 278g-4 of this title, amended section 272 of this title and section 759 of former Title 40, Public Buildings, Property, and Works, and enacted provisions set out as notes under section 271 of this title and section 1441 of former Title 40. For complete classification of this Act to the Code, see Tables.

#### **§ 5525. Environmental Protection Agency activities**

##### **(a) General responsibilities**

As part of the Program described in subchapter I of this chapter, the Environmental Protection Agency shall conduct basic and applied research directed toward the advancement and dissemination of computational techniques and software tools which form the core of ecosystem, atmospheric chemistry, and atmospheric dynamics models.

##### **(b) Authorization of appropriations**

From sums otherwise authorized to be appropriated, there are authorized to be appropriated to the Environmental Protection Agency for the purposes of the Program \$5,000,000 for fiscal year 1992; \$5,500,000 for fiscal year 1993; \$6,000,000 for fiscal year 1994; \$6,500,000 for fiscal year 1995; and \$7,000,000 for fiscal year 1996.

(Pub. L. 102-194, title II, §205, Dec. 9, 1991, 105 Stat. 1602.)

#### **§ 5526. Role of Department of Education**

##### **(a) General responsibilities**

As part of the Program described in subchapter I of this chapter, the Secretary of Education is authorized to conduct basic and applied research in computational research with an emphasis on the coordination of activities with libraries, school facilities, and education research groups with respect to the advancement and dissemination of computational science and the development, evaluation and application of software capabilities.

##### **(b) Authorization of appropriations**

From sums otherwise authorized to be appropriated, there are authorized to be appropriated to the Department of Education for the purposes of this section \$1,500,000 for fiscal year 1992; \$1,700,000 for fiscal year 1993; \$1,900,000 for fiscal year 1994; \$2,100,000 for fiscal year 1995; and \$2,300,000 for fiscal year 1996.

(Pub. L. 102-194, title II, §206, Dec. 9, 1991, 105 Stat. 1602.)

**§ 5527. Miscellaneous provisions****(a) Nonapplicability**

Except to the extent the appropriate Federal agency or department head determines, the provisions of this chapter shall not apply to—

- (1) programs or activities regarding computer systems that process classified information; or
- (2) computer systems the function, operation, or use of which are those delineated in paragraphs (1) through (5) of section 2315(a) of title 10.<sup>1</sup>

**(b) Acquisition of prototype and early production models**

In accordance with Federal contracting law, Federal agencies and departments participating in the Program may acquire prototype or early production models of new high-performance computing systems and subsystems to stimulate hardware and software development. Items of computing equipment acquired under this subsection shall be considered research computers for purposes of applicable acquisition regulations.

(Pub. L. 102–194, title II, §207, Dec. 9, 1991, 105 Stat. 1602.)

**§ 5528. Fostering United States competitiveness in high-performance computing and related activities****(a) Findings**

The Congress finds the following:

- (1) High-performance computing and associated technologies are critical to the United States economy.
- (2) While the United States has led the development of high-performance computing, United States industry is facing increasing global competition.
- (3) Despite existing international agreements on fair competition and nondiscrimination in government procurements, there is increasing concern that such agreements are not being honored, that more aggressive enforcement of such agreements is needed, and that additional steps may be required to ensure fair global competition, particularly in high-technology fields such as high-performance computing and associated technologies.
- (4) It is appropriate for Federal agencies and departments to use the funds authorized for the Program in a manner which most effectively fosters the maintenance and development of United States leadership in high-performance computers and associated technologies in and for the benefit of the United States.
- (5) It is appropriate for Federal agencies and departments to use the funds authorized for the Program in a manner, consistent with the Trade Agreements Act of 1979 (19 U.S.C. 2501 et seq.), which most effectively fosters reciprocal competitive procurement treatment by foreign governments for United States high-performance computing and associated technology products and suppliers.

<sup>1</sup> So in original. Section 2315 of title 10 does not contain a subsection. (a).

**(b) Annual report****(1) Report**

The Director shall submit an annual report to Congress that identifies—

(A) any grant, contract, cooperative agreement, or cooperative research and development agreement (as defined under section 3710a(d)(1) of this title) made or entered into by any Federal agency or department for research and development under the Program with—

- (i) any company other than a company that is either incorporated or located in the United States, and that has majority ownership by individuals who are citizens of the United States; or
- (ii) any educational institution or non-profit institution located outside the United States; and

(B) any procurement exceeding \$1,000,000 by any Federal agency or department under the Program for—

- (i) unmanufactured articles, materials, or supplies mined or produced outside the United States; or
- (ii) manufactured articles, materials, or supplies other than those manufactured in the United States substantially all from articles, materials, or supplies mined, produced, or manufactured in the United States,

under the meaning of chapter 83 of title 41.

**(2) Consolidation of reports**

The report required by this subsection may be included with the report required by section 5511(a)(3)(A)<sup>1</sup> of this title.

**(c) Application of Buy American Act**

This chapter does not affect the applicability of chapter 83 of title 41 to procurements by Federal agencies and departments undertaken as a part of the Program.

(Pub. L. 102–194, title II, §208, Dec. 9, 1991, 105 Stat. 1603; Pub. L. 110–69, title III, §3002(c)(6), Aug. 9, 2007, 121 Stat. 587.)

## REFERENCES IN TEXT

The Trade Agreements Act of 1979, referred to in subsec. (a)(5), is Pub. L. 96–39, July 26, 1979, 93 Stat. 144, as amended. For complete classification of this Act to the Code, see References in Text note set out under section 2501 of Title 19, Customs Duties, and Tables.

Section 5511(a)(3)(A) of this title, referred to in subsec. (b)(2), was redesignated section 5511(a)(2)(D) of this title by Pub. L. 110–69, title VII, §7024(a)(1)(B)(ii), (iii)(II), Aug. 9, 2007, 121 Stat. 687.

## CODIFICATION

In subsec. (b)(1)(B), “chapter 83 of title 41” substituted for “title III of the Act of March 3, 1933 (41 U.S.C. 10a–10d; popularly known as the Buy American Act) as amended by the Buy American Act of 1988” on authority of Pub. L. 111–350, §6(c), Jan. 4, 2011, 124 Stat. 3854, which Act enacted Title 41, Public Contracts.

In subsec. (c), “chapter 83 of title 41” substituted for “title III of the Act of March 3, 1933 (41 U.S.C. 10a–10d; popularly known as the Buy American Act), as amended by the Buy American Act of 1988,” on authority of Pub. L. 111–350, §6(c), Jan. 4, 2011, 124 Stat. 3854, which Act enacted Title 41, Public Contracts.

<sup>1</sup> See References in Text note below.

## AMENDMENTS

2007—Subsecs. (c), (d). Pub. L. 110-69 redesignated subsec. (d) as (c) and struck out former subsec. (c) which related to review of Supercomputer Agreement.

## TERMINATION OF REPORTING REQUIREMENTS

For termination, effective May 15, 2000, of provisions of law requiring submittal to Congress of any annual, semiannual, or other regular periodic report listed in House Document No. 103-7 (in which a report required under subsec. (b)(1) of this section is listed on page 185), see section 3003 of Pub. L. 104-66, as amended, set out as a note under section 1113 of Title 31, Money and Finance.

## SUBCHAPTER III—DEPARTMENT OF ENERGY HIGH-END COMPUTING REVITALIZATION

## § 5541. Definitions

In this subchapter:

## (1) Center

The term “Center” means a High-End Software Development Center established under section 5542(d) of this title.

## (2) High-end computing system

The term “high-end computing system” means a computing system with performance that substantially exceeds that of systems that are commonly available for advanced scientific and engineering applications.

## (3) Leadership System

The term “Leadership System” means a high-end computing system that is among the most advanced in the world in terms of performance in solving scientific and engineering problems.

## (4) Institution of higher education

The term “institution of higher education” has the meaning given the term in section 1001(a) of title 20.

## (5) Secretary

The term “Secretary” means the Secretary of Energy, acting through the Director of the Office of Science of the Department of Energy. (Pub. L. 108-423, § 2, Nov. 30, 2004, 118 Stat. 2400.)

## REFERENCES IN TEXT

This subchapter, referred to in text, was in the original “this Act”, meaning Pub. L. 108-423, Nov. 30, 2004, 118 Stat. 2400, which is classified principally to this subchapter. For complete classification of this Act to the Code, see Short Title note set out under section 5501 of this title and Tables.

## CODIFICATION

This section was enacted as part of the Department of Energy High-End Computing Revitalization Act of 2004 which comprises this subchapter, and not as part of the High-Performance Computing Act of 1991 which comprises this chapter.

## SHORT TITLE

This subchapter known as the “Department of Energy High-End Computing Revitalization Act of 2004”, see Short Title note set out under section 5501 of this title.

## § 5542. Department of Energy high-end computing research and development program

## (a) In general

The Secretary shall—

(1) carry out a program of research and development (including development of software and hardware) to advance high-end computing systems; and

(2) develop and deploy high-end computing systems for advanced scientific and engineering applications.

## (b) Program

The program shall—

(1) support both individual investigators and multidisciplinary teams of investigators;

(2) conduct research in multiple architectures, which may include vector, reconfigurable logic, streaming, processor-in-memory, and multithreading architectures;

(3) conduct research on software for high-end computing systems, including research on algorithms, programming environments, tools, languages, and operating systems for high-end computing systems, in collaboration with architecture development efforts;

(4) provide for sustained access by the research community in the United States to high-end computing systems and to Leadership Systems, including provision of technical support for users of such systems;

(5) support technology transfer to the private sector and others in accordance with applicable law; and

(6) ensure that the high-end computing activities of the Department of Energy are coordinated with relevant activities in industry and with other Federal agencies, including the National Science Foundation, the Defense Advanced Research Projects Agency, the National Nuclear Security Administration, the National Security Agency, the National Institutes of Health, the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, the National Institutes of Standards and Technology, and the Environmental Protection Agency.

## (c) Leadership Systems facilities

## (1) In general

As part of the program carried out under this subchapter, the Secretary shall establish and operate 1 or more Leadership Systems facilities to—

(A) conduct advanced scientific and engineering research and development using Leadership Systems; and

(B) develop potential advancements in high-end computing system hardware and software.

## (2) Administration

In carrying out this subsection, the Secretary shall provide to Leadership Systems, on a competitive, merit-reviewed basis, access to researchers in United States industry, institutions of higher education, national laboratories, and other Federal agencies.

## (d) High-End Software Development Center

## (1) In general

As part of the program carried out under this subchapter, the Secretary shall establish at least 1 High-End Software Development Center.

## (2) Duties

A Center shall concentrate efforts to develop, test, maintain, and support optimal al-

gorithms, programming environments, tools, languages, and operating systems for high-end computing systems.

### (3) Proposals

In soliciting proposals for the Center, the Secretary shall encourage staffing arrangements that include both permanent staff and a rotating staff of researchers from other institutions and industry to assist in coordination of research efforts and promote technology transfer to the private sector.

### (4) Use of expertise

The Secretary shall use the expertise of a Center to assess research and development in high-end computing system architecture.

### (5) Selection

The selection of a Center shall be determined by a competitive proposal process administered by the Secretary.

(Pub. L. 108-423, § 3, Nov. 30, 2004, 118 Stat. 2400.)

#### REFERENCES IN TEXT

This subchapter, referred to in subsecs. (c)(1) and (d)(1), was in the original “this Act”, meaning Pub. L. 108-423, Nov. 30, 2004, 118 Stat. 2400, which is classified principally to this subchapter. For complete classification of this Act to the Code, see Short Title note set out under section 5501 of this title and Tables.

#### CODIFICATION

This section was enacted as part of the Department of Energy High-End Computing Revitalization Act of 2004 which comprises this subchapter, and not as part of the High-Performance Computing Act of 1991 which comprises this chapter.

### § 5543. Authorization of appropriations

In addition to amounts otherwise made available for high-end computing, there are authorized to be appropriated to the Secretary to carry out this subchapter—

- (1) \$50,000,000 for fiscal year 2005;
- (2) \$55,000,000 for fiscal year 2006; and
- (3) \$60,000,000 for fiscal year 2007.

(Pub. L. 108-423, § 4, Nov. 30, 2004, 118 Stat. 2402.)

#### REFERENCES IN TEXT

This subchapter, referred to in text, was in the original “this Act”, meaning Pub. L. 108-423, Nov. 30, 2004, 118 Stat. 2400, which is classified principally to this subchapter. For complete classification of this Act to the Code, see Short Title note set out under section 5501 of this title and Tables.

#### CODIFICATION

This section was enacted as part of the Department of Energy High-End Computing Revitalization Act of 2004 which comprises this subchapter, and not as part of the High-Performance Computing Act of 1991 which comprises this chapter.

## CHAPTER 82—LAND REMOTE SENSING POLICY

### § 5601. Transferred

#### CODIFICATION

Section, Pub. L. 102-555, § 2, Oct. 28, 1992, 106 Stat. 4163, which related to findings, was transferred and is set out as a note under section 60101 of Title 51, National and Commercial Space Programs.

### § 5602. Repealed. Pub. L. 111-314, § 6, Dec. 18, 2010, 124 Stat. 3444

Section, Pub. L. 102-555, § 3, Oct. 28, 1992, 106 Stat. 4164, provided definitions for this chapter. See section 60101 of Title 51, National and Commercial Space Programs.

#### SUBCHAPTER I—LANDSAT

### §§ 5611 to 5615. Repealed. Pub. L. 111-314, § 6, Dec. 18, 2010, 124 Stat. 3444

Section 5611, Pub. L. 102-555, title I, § 101, Oct. 28, 1992, 106 Stat. 4166, related to management of the Landsat Program. See section 60111 of Title 51, National and Commercial Space Programs.

Section 5612, Pub. L. 102-555, title I, § 102, Oct. 28, 1992, 106 Stat. 4168, related to procurement of Landsat 7.

Section 5613, Pub. L. 102-555, title I, § 103, Oct. 28, 1992, 106 Stat. 4168, related to data policy for Landsat 4 through 6.

Section 5614, Pub. L. 102-555, title I, § 104, Oct. 28, 1992, 106 Stat. 4170, related to transfer of Landsat 6 program responsibilities. See section 60112 of Title 51.

Section 5615, Pub. L. 102-555, title I, § 105, Oct. 28, 1992, 106 Stat. 4170, related to data policy for Landsat 7. See section 60113 of Title 51.

#### SUBCHAPTER II—LICENSING OF PRIVATE REMOTE SENSING SPACE SYSTEMS

### §§ 5621 to 5625. Repealed. Pub. L. 111-314, § 6, Dec. 18, 2010, 124 Stat. 3444

Section 5621, Pub. L. 102-555, title II, § 201, Oct. 28, 1992, 106 Stat. 4171; Pub. L. 105-303, title I, § 107(f)(1), Oct. 28, 1998, 112 Stat. 2854, related to general licensing authority. See section 60121 of Title 51, National and Commercial Space Programs.

Section 5622, Pub. L. 102-555, title II, § 202, Oct. 28, 1992, 106 Stat. 4172; Pub. L. 105-303, title I, § 107(f)(2), Oct. 28, 1998, 112 Stat. 2854, related to conditions for operation. See section 60122 of Title 51.

Section 5623, Pub. L. 102-555, title II, § 203, Oct. 28, 1992, 106 Stat. 4172, related to administrative authority of Secretary. See section 60123 of Title 51.

Section 5624, Pub. L. 102-555, title II, § 204, Oct. 28, 1992, 106 Stat. 4173, related to regulatory authority of Secretary. See section 60124 of Title 51.

Section 5625, Pub. L. 102-555, title II, § 205, Oct. 28, 1992, 106 Stat. 4173, related to agency activities. See section 60125 of Title 51.

#### SUBCHAPTER III—RESEARCH, DEVELOPMENT, AND DEMONSTRATION

### §§ 5631 to 5633. Repealed. Pub. L. 111-314, § 6, Dec. 18, 2010, 124 Stat. 3444

Section 5631, Pub. L. 102-555, title III, § 301, Oct. 28, 1992, 106 Stat. 4174, related to continued Federal research and development. See section 60131 of Title 51, National and Commercial Space Programs.

Section 5632, Pub. L. 102-555, title III, § 302, Oct. 28, 1992, 106 Stat. 4174, related to availability of federally gathered unenhanced data. See section 60132 of Title 51.

Section 5633, Pub. L. 102-555, title III, § 303, Oct. 28, 1992, 106 Stat. 4174, related to technology demonstration program. See section 60133 of Title 51.

#### SUBCHAPTER IV—ASSESSING OPTIONS FOR SUCCESSOR LAND REMOTE SENSING SYSTEM

### § 5641. Repealed. Pub. L. 111-314, § 6, Dec. 18, 2010, 124 Stat. 3444

Section, Pub. L. 102-555, title IV, § 401, Oct. 28, 1992, 106 Stat. 4175, related to assessing options for successor